

WCES 2012

The validation of integrating teachers competency and participatory supervision model

Prasitsinchai Nutchrat ^a, Chaijaroen Sumalee ^{b*}^a*Ph.D. Program Student, Department of Educational Technology, Faculty of Education, Khon Kaen University, 4002, Thailand*^b*Associate Professor, Department of Educational Technology, Faculty of Education, Khon Kaen University, 40002, Thailand*

Abstract

The purpose of this research was to examine the internal validation and the external validation of an Integrating teacher competency and participatory supervision model. The target group for the internal validation consisted of 6 experts, 1 Instructional Designer, 2 Developers of constructivist web-based learning environment, and 2 supervisors. The target group for the external validation consists of 30 teachers The Office of Kalasin Educational Service Area 1, Kalasin Province, Northeastern Thailand. The Research Developmental Phase II: Model validation was employed in this study. The Results revealed that: The results from the Model Validation, (1) Internal validation: The model have been examined by 6 experts and found that the model design are consistent with underlined theories which based on Instruction Design theories (ID Theories) (2) The external validation found that the learning with model, teachers have high levels of teacher competencies ($\bar{x} = 4.26, S.D = 0.85$), the teacher's opinions toward the integrating teacher competency and participatory supervision model are appropriated in all aspects and the model can enhance teacher competencies.

© 2012 Published by Elsevier Ltd. Selection and/or peer review under responsibility of Prof. Dr. Hüseyin Uzunboylu

Open access under [CC BY-NC-ND license](#).

Keywords: Participatory supervision, Teacher's competencies, ID Theory, Supervision model;

1. Introduction

Today's global society has changing economic, social and culture continuously. The developments of human resources are necessary. Mechanism of this development is teaching professional development. The teacher is a person who is the driving force for the development of the nation. In addition, process of supervision that has coordination and participatory between the teachers and supervisor for improving and developing the instruction and education of the nation. It should focus on innovation that helps teachers to recognize their own ways of working. Furthermore, it encourages the teachers to evaluate their own performance and exchange of experience between them. Therefore, supervision of education plays a significant role in behavioral changes to help improve teaching of teachers to meet the changing social environment. Sally (2000) had explored the concept of supervision. In the present, the schools become more complex than before. Supervisor has to support the teachers to develop knowledge construction by in hand experiences by learning on the competency required for their instruction. Thus, in the supervisory process to develop teachers' competency, must be connected the relationship between professional

* Chaijaroen, Sumalee. Tel.: +6-687-214-5123

E-mail address: sumalee@kku.ac.th

competency and the supervision. This may results in develop the teachers' professional development especially, the teachers' competency.

The model design and development Phase I was conducted. This model consists of 8 components of models such as 1) Creating awareness 2) Training teacher competency by workshop 3) Teacher training by learning environment developed based on the theory of constructivist 4) Authentic Supervision 5) Online Supervision 6) Sharing experiences 8) Teacher Forum of innovation 8) Spirit Moral. The efficiency was assessed by the expert reviewers. However, it doesn't approve validation of the model in this phase.

For above mentioned reason this study intents to study the validation of the Integrating teacher competency and participatory supervision model. The finding of this study may help to confirm the quality of the model that can be used to develop the teachers' competency and supervision process. This in turn may influence with the teachers' professional development.

2. The Purpose of Research

2.1 To study validation of internal validation of the Integrating teacher competency and participatory supervision model.

2.2 To study validation of external validation of the Integrating teacher competency and participatory supervision model.

3. Operational Definition

3.1 The internal validation refers to the examination of the design and development of model in order to confirm the quality by experts in various fields as: 1) the content experts, 2) the media experts, and 3) the model design experts.

3.2 The external validation refers to the impact of utilization of the model in 3 aspects as follows: (1) Teacher competency according to the framework of the teacher professional council of Thailand which focus on competency on selecting, designing, producing and improving learning innovation (2) The teacher's opinions toward the Integrating teacher competency and participatory supervision model

4. The target group

The target group used in the internal validation and external validation were as follows:

4.1 The target group for the internal validation consisted of six experts, one Instructional Designer, two Developers for constructivist web-based learning environment, and two supervisors of the Primary level of educational service of area 1, Kalasin Province, Northeastern Thailand.

4.2 The target group for external validation consists of 30 teachers who taught in the primary school level under The Office of Kalasin Educational Service Area 1, Kalasin Province, Northeastern Thailand.

5. The Research instruments

Instruments used in the study and data collection include:

5.1 The instruments for collecting data of internal validation were (1) The evaluation form of quality of the model (2) The designer characteristic survey (3) The developer characteristic survey (4) The supervisor characteristic survey that based on Richey and Klein (2007).

5.2 The instruments for collecting data of external validation were: (1) The teacher professional competencies test (2) The interview form of the teacher professional competencies based on The teacher council of Thailand (3) The opinions of teachers concerning learning and teaching with the model Hanafin (1999), Chaijaroen, Sumalee (2007) (4) Achievement test of the teachers on the design and development innovation (5) The supervision recording form

based on William E. Smith and Turid Sato (1980) (6) The opinionnaire of the teachers toward sharing experience activity (7) The opinionnaire of the teachers toward forum activity based on Nonaka(1995).

6. Data Collecting and Analysis

The Integrating teacher competency and participatory supervision model was used with the target group in order to study the validation of the model as follows: (1) Create awareness, (2) Training for teachers' competency in a workshop (over 3 days) and to develop a constructivist web based learning environment (over a 2 month period), (3) The supervisors follow-up by using participatory supervision (AIC) in schools, as well as online supervision.

The data were collected and analyzed by the researcher as following details:

6.1 The internal validation: The examination of the design and development of the model in order to confirm the quality by experts in various fields as follows: 1) the content experts, 2) the media experts, and 3) the model design experts. The data were collected and analyzed by using the analytic descriptive, interpretation and summarization.

6.2 The external validation of the model: The impact of utilization of the model in 3 aspects as follows: 1) Teacher competency according to the framework of the teacher council of Thailand which focus on competency on selecting, designing, producing and improving learning innovation. Pretest and posttest were conducted. 2) The teacher's opinions toward the Integrating teacher competency and participatory supervision model. The quantitative data of Teacher competency were collected and analyzed by using descriptive statistics (\bar{x} , S.D.). The qualitative data regarding the teacher's opinions were collected and analyzed by using the analytic descriptive, interpretation and summarization.

7. The research result

From the study of the Integrating teachers competency and participatory supervision model. Research results can be summarized as follows:

7.1 The Internal validation of the model: as a result of examination by the experts showed that the designing of model is appropriate and congruent with the underlined theories and principles. Theories used were participatory supervision based on William E. Smith and Turid Sato (1980), the Teacher competencies based on the standard of the Teacher Council of Thailand, learning theories: constructivist theories, cognitive theories, media theory and knowledge management. That can enhance teacher competency based on the theories used as foundation in the design of the model.

7.2 The External validation of the model: the impact of the utilization of the models showed as follows:

7.2.1 The teachers' competency:

7.2.1.1 Results from the competency test score: It was found that the competency on selection, design and production, improvements of the learning innovation of the teachers at high level. The average scores of pretest and posttest are increase ($\bar{x} = 3.30$, S.D.1.07), $\bar{x} = 4.26$ S.D.0.85)

7.2.1.2 Results from the interviews of the teachers' competency as follows: The teacher can select appropriate learning media that corresponds to the characteristic of their teaching subject. They also can utilize learning media and innovation effectively. Before utilization of media, they always prepare learning media and innovation, facilities used, and try out before the class and prepare the learners. After they learned according to this

model they can design and develop the learning media and innovation. Since the model provided both theories and practices by workshop training, constructivist web-based learning environment and supervise both in authentic situation in school and online during the process of producing the innovation.

7.2.2 Opinions of the teachers who learned with the Integrating teachers competency and participatory supervision model, showed that the model is appropriate in all aspects and supports the teachers to develop their competency as following details: (1) Content, Regarding the content is up to date and very interesting and beneficial for them to develop constructivist web-based learning innovation that they are not get used to it. It is enough for them for learning by their own selves. The content format design helps them to understand easily. (2) The learning media and innovation: It is revealed that the web-base design make them easily to access the information in the innovation resources and links. This helps them to obtain the new information and knowledge easily. This can help them to learn by their own selves. (3) The model designs are appropriate that can help them to develop the teachers' competency on the selection, design and production, improving of the learning innovation. Finally, they have confidence in designing and producing the constructivist web-based learning environment. (4) The workshop training is very beneficial for them for understanding and producing the constructivist web-based learning environment. It allows them to expand their knowledge through inquiry and actual practice in producing the innovation. (5) Authentic supervision is very useful. Since the teachers can be opened their mind, reflect and share their experiences and collaboration. (5) Online supervision helps the teachers to save time on troubleshooting and to coach during the process of designing and producing the innovation. (6) The teacher forum helps them to learn by sharing the ideas and best practice between in school and outside the school. From the results of the research and empirical evidences above mentioned illustrate both the internal and external validation of the Integrating teacher competency and participatory supervision model.

8. Discussion

The results reveal that both the internal and the external validation are found as follows: (1) The internal validation: The model were examined by six experts and found that the model design are consistent with underlined theories which based on Instruction Design theories (ID Theories) (2) The external validation found that the learning with model, teachers have high levels of teacher competencies. The mean value is 4.26 and standard deviation is 0.85, the teacher's opinions toward the integrating teacher competency and participatory supervision model are appropriated in all aspects and the model can enhance the teacher competencies. These findings consistent with the study of Chaijaroen, Sumalee and others (2008); Khanjug, Issara and Chaijaroen, Sumalee (2009); Samart, Jaruni and Chaijaroen, Sumalee (2009); Wattanachai, Suchart and Chaijaroen, Sumalee (2010); TonghuapaiUrai and Chaijaroen, Sumalee (2010) studied the validations of the model, both of the Internal validation and the External validation were also found. In addition, It is also consistent with Monica W. Tracey (2009) studied on the design and development Model of multiple intelligences by using the Developmental research. Forsyth (1997) studied on the construction and validation of an instructional systems design model for community-based train-the-trainer instruction by using the Developmental research Phase 3 and found the efficiency of the ISD models and programming TtT. Karetos and Haralambopoulos (2011) studied on the integration of competencies in an ontology-based framework supporting teachers to construct learning designs in the domain of sustainable energy education. Nattaphon (2011) studied on the development model of knowledge management via webbased learning to enhance pre-service teacher's competency.

The above mentioned finding of the internal and the external validation of the model may cause from the instructional design used that is ID Theory. Theories used were participatory supervision based on William E. Smith and Turid Sato (1980), the Teacher competencies based on the standard of the Teacher Council of Thailand, learning theories: constructivist theories, cognitive theories, media theory, and knowledge management. That may help to enhance the teacher competency. Based on the theories used as foundation in the design of the model, this may leads to enhance the teacher competencies. In addition, the specialize characteristic of the designer may result in the

internal validation of the model. Since her specialize in supervision for more than 20 years and also has the educational background and studying in Doctor of Philosophy Program in Educational Technology focus on Instruction design especially ID Theory. Consequently, this may help in designing the components of model congruent with those underlined principles and theories. This may results in the internal validation of the model. It can be supported by the empirical evidences from the above mentioned experts' examination and evaluation of the model. Moreover, this model has combination between the theories and practices therefore the design activities as workshop training, authentic supervision in the real context and increase efficiency of the model by using information and communication technology in the AIC supervision processes. This may affect the impact the utilization of the model such as help to develop the teachers' competency both in test scores and performances in selecting, designing, producing and improving the learning media and innovations. It can be supported by the empirical evidence from the interviews as following details below.

"The workshop training on design and develop the innovation is successful because the expert provided both the principles of the theory and practice. ...After that, if I cannot understand, I can learn and learn more in the constructivist web-based learning environment that can help me to understand and can produce the innovation."

"If I do not understand anything I tried to make an appointment with the teachers in another schools. We can share the idea and experiences in producing the innovation. That helps me in producing the innovation successfully."

"The supervision in school that can stimulus me to continue the production of innovation. And Online communication can help me to work anytime when I cannot understand something."

The various findings of this study and empirical evidences can suggest that the model can be illustrated both the internal and external validation. This may results in the developing of the teachers' competency that illustrate by the teachers' competency test scores and interview results and portfolio of producing innovation.

9. Acknowledgements

This work was supported by the Higher Education Research Promotion and National Research University Project of Thailand, Office of the Higher Education Commission, through the Cluster of Research to Enhance the Quality of Basic Education, Innovation and Cognitive Technology, Faculty of Education, and the Research and Technology Transfer Affairs Division, Khon Kaen University.

References

- Chaijaroen, Sumalee (2008). *Educational Technology: Principles Theories to Practices*. Faculty of Education, Khon Kaen University.
- Chaijaroen, Sumalee, and Others. (2008). *Synthesis of Learning Innovation Model Enhancing Learning's Learning Potential Using Brain-Based Learning*. Faculty of Education, Khon Kaen University.
- Janice Evelyn Forsyth, (1997). *The construction and validation of an instructional systems design model for community-based train-the-trainer instruction*. Retrieved from <http://digitalcommons.wayne.edu/dissertations/AAI9815296>
- Gamlanglert, T. and Chaijaroen, S. (2011). Design and development of knowledge construction model enhancing scientific thinking. *European Journal of Social Sciences*. 25 (3), pp. 395-404.
- Hannafin, M., Land, S., & Oliver, K. (1999). *Open learning environments: Foundations, methods, and models*. In M.R.Charles (Ed.). *Instructional Design Theories And Models: A new Paaradigm of Instructional Theory*. Volumn II. New Jersey:Lawrence Erlbaum.
- Kanjug, Issara and Chaijaroen, Sumalee (2009). *Development of Learning Environments Model Enhancing Expertise Mental Model*. Educational Technology, KhonKaen University.
- Karetos and Haralambopoulos. (2011). *The integration of competencies in an ontology-based framework supporting teachers to construct learning designs in the domain of sustainable energy education*. *Journal of Teacher Education for Sustainability*, 13(1) , 129-139. Retrieved from Scopus journals database.
- Nattaphon, Rampai. (2011). *The development model of knowledge management via web based learning to enhance pre-service teacher's competency*. *The Turkish Online Journal of Educational Technology*, 10(3) , 249-254 . Retrieved from Scopus journals database.
- Richey, R.C. and J.D. Klein (2007). *Design and Development Research*, New Jersey: Lawrence Erlbaum.
- Samat, Charuni and Chaijaroen, Sumalee (2009). *The Development of Constructivist Web-Based Learning Environment Model to Enhance Creative Thinking for Higher Education Students*. Education Technology, Khon Kaen University

- Smith W William. (1991). *The AIC Model concept and Practice*. Organization for Development International Institute. Retrieved from <http://www.odii.com/>.
- Thonghuaphai,Urai and Chaijaroen, Sumalee. (2010). *The Development of Web-based Learning Environment Model to Enhance Program Comprehension*. Doctor of Philosophy Thesis in Educational Technology , Graduate School, Khon Kaen University.
- Thonghuaphai, Urai et al. (2010). Development of a Package for Softuttre Cost Estimation by The Cocomo Model. *Journal of Kasem Bundit University* 11, 1 (January-June)
- Tracey, Monica W. (2009).*Design and development research: a model validation case Educational Technology Research and Development*,57: 553-571, July 31, 2009.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*, Cambridge, MA: Harvard University Press.
- Watanachai, Suchat and Chaijaroen, Sumalee. (2010). *Development of Constructivist Web-Based Learning Environment Model to Foster Problem Solving and Transfer of Learning*. Doctor of Philosophy Thesis in Educational Technology, Graduate School, Khon Kaen University.
- Wattanachai, Suchat, Charuni Samart, Chaijaroen, Sumalee et al. (2005). *Design and Development of Learning Innovation Enhancing the Learners' Thinking. Faculty of Education*, Khon Kaen University.
- Zepeda,Sally J.(2000). *Supervisory Practices: Building a Constructivist Learning Community for Adult*. In *Paradigm Debates in Curriculum and Supervision Modern and Postmodern Perspectives* : An imprint of Greenwood Publishing Group. United States of America.